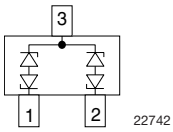
Bidirectional Symmetrical (BiSy) Low Capacitance, Dual-Line ESD-Protection Diode in SOT-323



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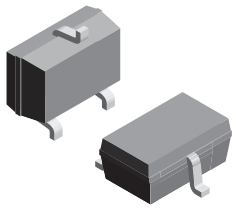
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SOT-323

FEATURES

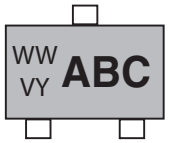
- For CAN and FLEX-Bus applications
- Small SOT-323 package
- AEC-Q101 qualified
- 2-line ESD-protection
- Working range ± 26.5 V
- Low leakage current I_R < 0.05 µA
- Low load capacitance C_D < 15 pF
- ESD-protection acc. IEC 61000-4-2
  ± 30 kV contact discharge
  ± 30 kV air discharge
- e3 - pins plated with tin (Sn)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

MARKING (example only)



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ABC = type code (see table below)
WW = date code working week
VY = date code year

ORDERING INFORMATION

PART NUMBER (EXAMPLE)	ENVIRONMENTAL AND QUALITY CODE				PACKAGING CODE		ORDERING CODE (EXAMPLE)
	AEC-Q101 QUALIFIED	RoHS-COMPLIANT + LEAD (Pb)-FREE TERMINATIONS		TIN PLATED	3K PER 7" REEL (8 mm TAPE) 15K/BOX = MOQ	10K PER 13" REEL (8 mm TAPE) 10K/BOX = MOQ	
		STANDARD	GREEN				
VCAN26A2-03G	-	E		3	-08		VCAN26A2-03G-E3-08
VCAN26A2-03G	H	E		3	-08		VCAN26A2-03GHE3-08
VCAN26A2-03G	-	E		3		-18	VCAN26A2-03G-E3-18
VCAN26A2-03G	H	E		3		-18	VCAN26A2-03GHE3-18

PACKAGE DATA

DEVICE NAME	PACKAGE NAME	TYPE CODE	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
VCAN26A2-03G	SOT-323	6A2	5.65 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	Peak temperature max. 260 °C

ABSOLUTE MAXIMUM RATINGS

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Peak pulse current	T_A = 25 °C, acc. IEC 61000-4-5; t_p = 8/20 µs; single shot	I_{PPM}	3	A
Peak pulse power	T_A = 25 °C; pin 1 or 2 to pin 3; acc. IEC 61000-4-5; t_p = 8/20 µs; single shot	P_{PP}	150	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses, T_A = 25 °C	V_{ESD}	± 30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses, T_A = 25 °C		± 30	kV
Operating temperature	Junction temperature	T_J	-55 to +150	°C
Storage temperature		T_{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (pin 1 to 3, 3 to 1, 2 to 3, or 3 to 2) (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITIONS/REMARKS**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Protection paths	Number of lines which can be protected	$N_{channel}$	-	-	2	lines
Reverse stand-off voltage	Max. reverse working voltage	V_{RWM}	-	-	26.5	V
Reverse voltage	At I_R = 0.05 µA	V_R	26.5	-	-	V
Reverse current	At V_{RWM} = 26.5 V	I_R	-	-	0.05	µA
Reverse breakdown voltage	At I_R = 1 mA	V_{BR}	28	30	32	V
Reverse clamping voltage	At I_{PP} 1 A; t_p = 8/20 µs	V_C	-	33	40	V
	At I_{PP} = I_{PPM} = 3 A; t_p = 8/20 µs	V_C	-	40	50	V
Capacitance	At V_R = 0 V, f = 1 MHz	C_D	-	10	15	pF
	Diode capacitance matching at V_R = 0 V, T_J = -40 °C to 125 °C / C_{D13} vs. C_{D23}	C_D	-	-	2	pF

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

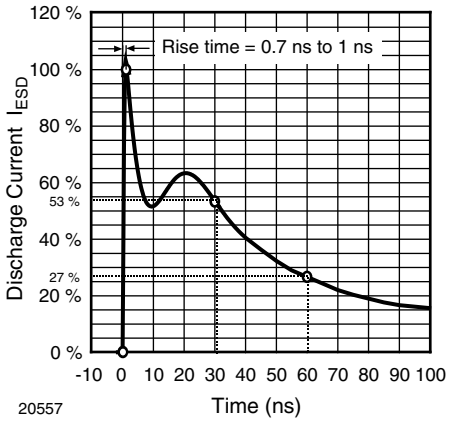


Fig. 1 - ESD Discharge Current Wave Form acc. IEC 61000-4-2 (330 Ω / 150 pF)

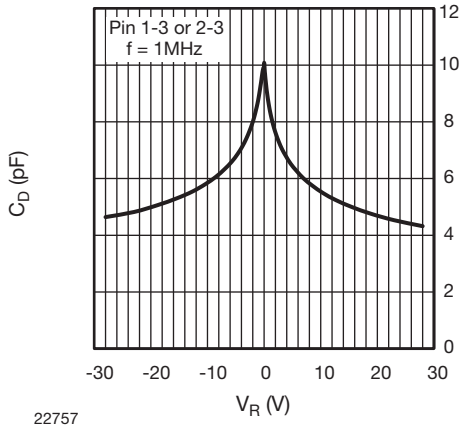


Fig. 3 - Typical Capacitance C_D vs. Reverse Voltage V_R

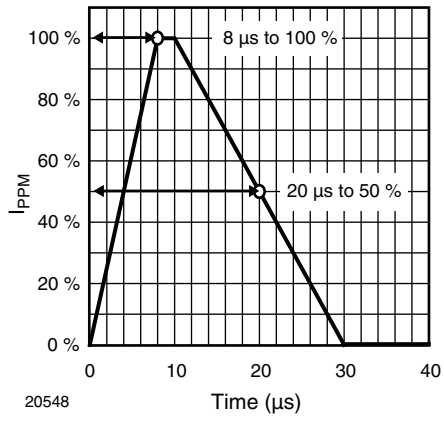


Fig. 2 - 8/20 µs Peak Pulse Current Wave Form acc. IEC 61000-4-5

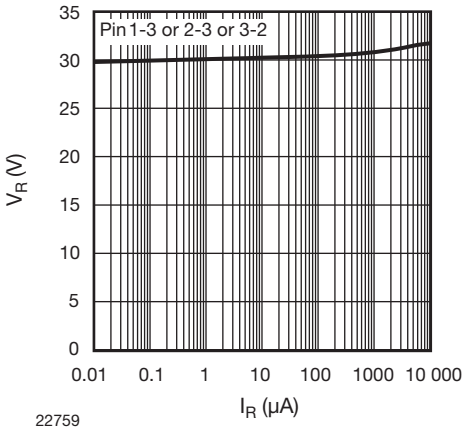


Fig. 4 - Typical Reverse Voltage V_R vs. Reverse Current I_R

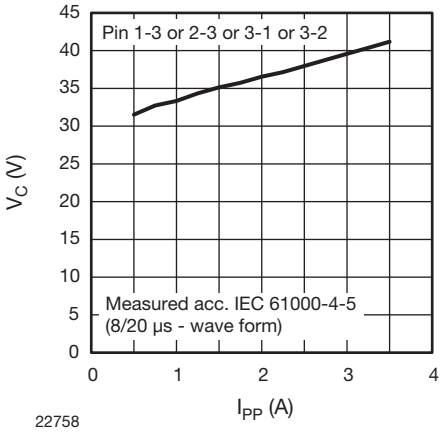


Fig. 5 - Typical Peak Clamping Voltage V_C vs. Peak Pulse Current I_{PP}

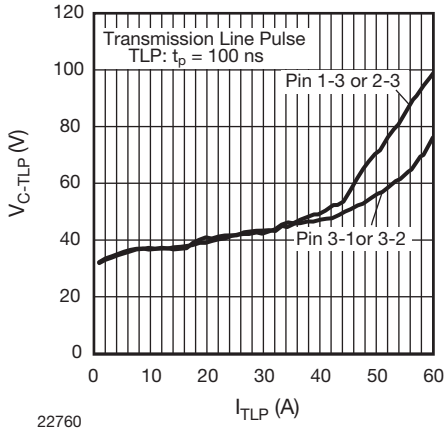
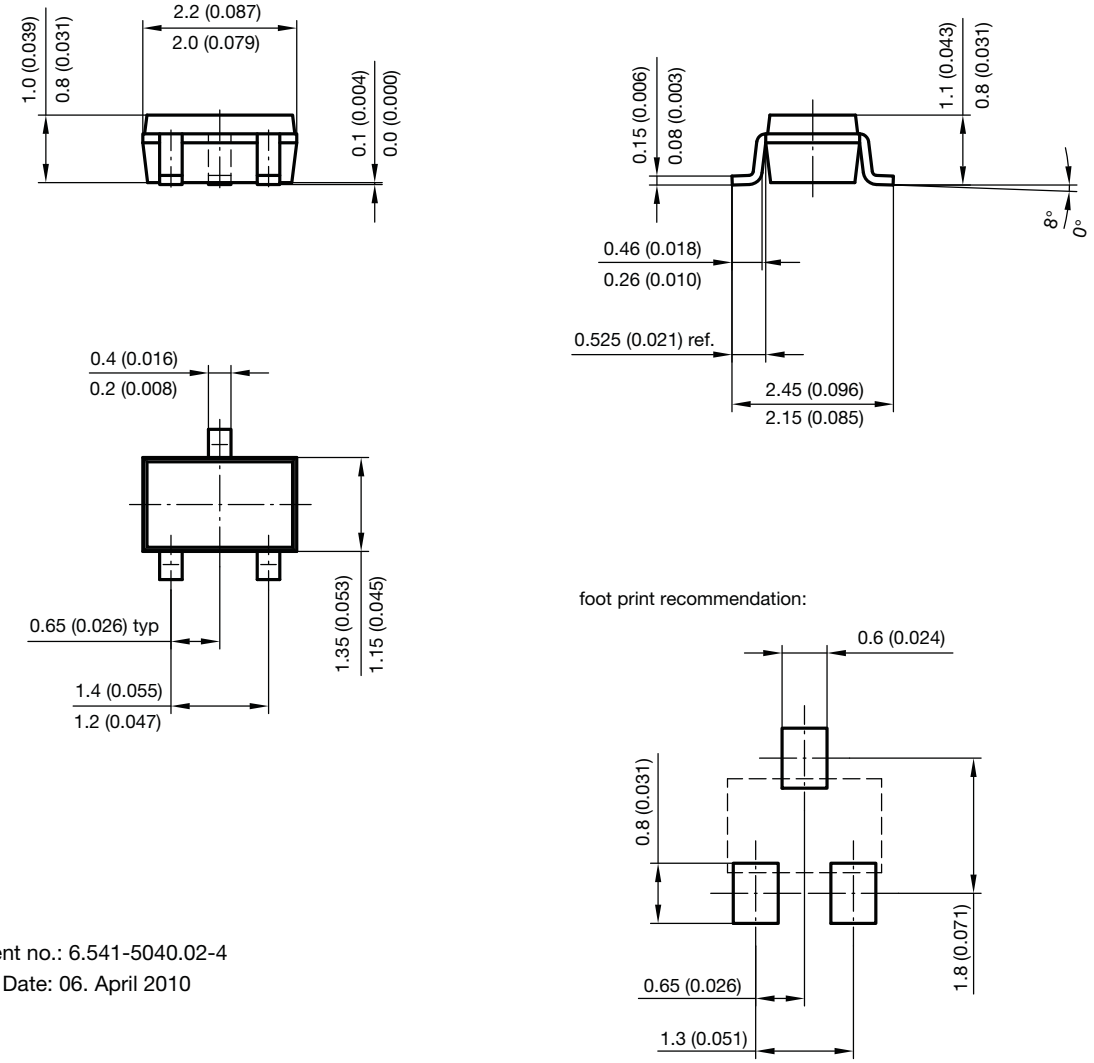


Fig. 6 - Typical Clamping Voltage V_{C-TLP} vs. Pulse Current I_{TLP}

PACKAGE DIMENSIONS in millimeters (inches) **SOT-323**



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Rev. 1 - Date: 06. April 2010
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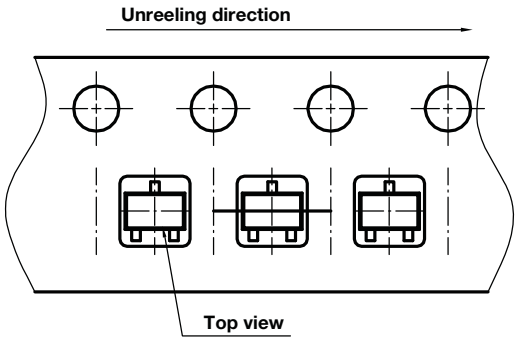
ORIENTATION IN CARRIER TAPE SOT-323



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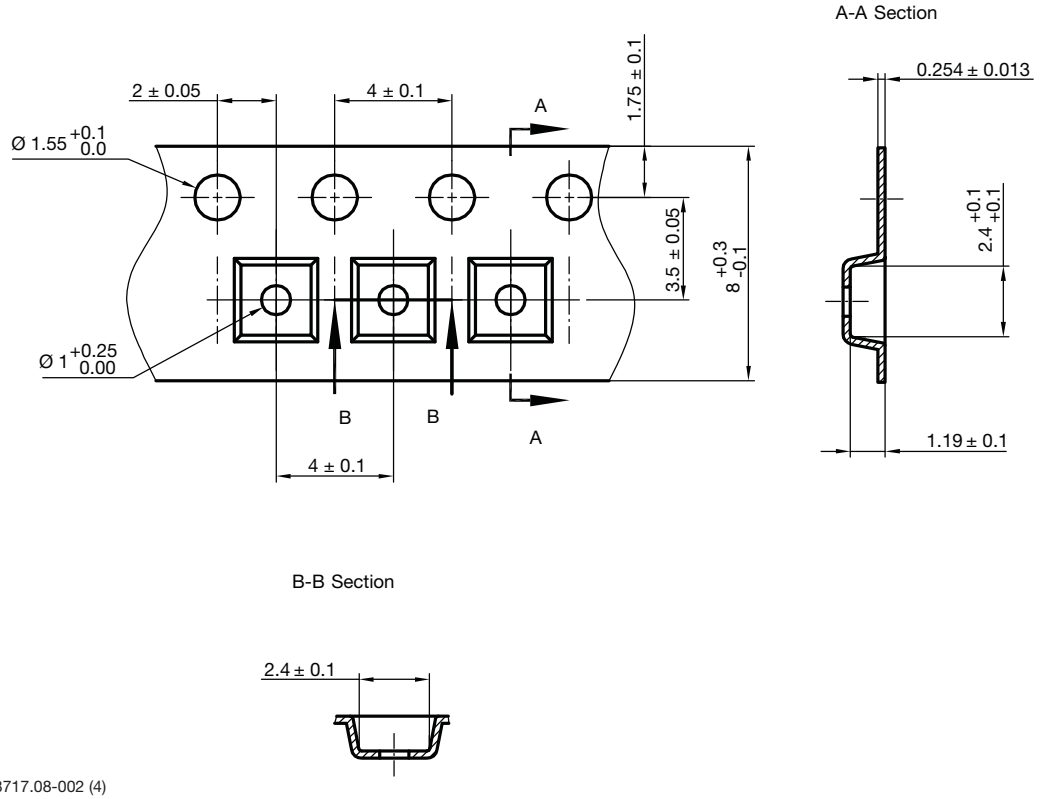
CARRIER TAPE SOT-323



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Created - Date: 09. Feb. 2010
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